

HAUSER SMOKE SHOP (PWSNO 1280248) SOURCE WATER ASSESSMENT REPORT

April 23, 2002



State of Idaho Department of Environmental Quality

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SOURCE WATER ASSESSMENT FOR HAUSER SMOKE SHOP

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000 foot radius of your well, your water quality history, construction characteristics associated with your well or wells, and site specific sensitivity factors associated with the aquifer your water is drawn from.

This report, *Source Water Assessment for Hauser Smoke Shop* describes the public drinking water source, potential contaminant sites located within a 1000-foot boundary around the drinking water source, and the susceptibility (risk) that may be associated with any associated potential contaminants. This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Potential Contaminant Inventory. The Hauser Smoke Shop public water system, located near the intersection of State Highway 53 and Prairie Avenue, serves a convenience store, and two mobile homes in a rural residential area. A 488-foot deep well located about 150 feet southwest of the store supplies drinking water for the system. The well was drilled in April 1974 to a depth of 205 feet. It was hydrofractured from 147 and 488 feet below the surface in July 2001. Potential contaminant sources documented inside the 1000-foot boundary around the well include a gas station and a major transportation corridor. The locations of septic systems inside the 1000-foot boundary are not on record in the public water system file.

The map on page 5 of this report shows the well location, the 1000-foot boundary and approximate locations of roads, buildings and the gas station relative to the well. The table below summarizes additional information about potential contaminant sites numbered on the map.

Table 1. Hauser Smoke Shop Potential Contaminant Inventory

Map ID	Source Description	Potential Contaminants	Source of Information
1	Gas Station	SOC, VOC	Underground Storage Tank Database
2	Gas Station	SOC, VOC	SARA Database
3	Highway 53	IOC, SOC, VOC, Microbial	County Map
4	Rail Line	IOC, SOC, VOC, Microbial	US Geological Survey Map

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

USGS= United States Geological Survey, PWS = Public Water System

Well Construction and Well Site Characteristics. The Hauser Smoke Shop well was drilled in April 1974 to a depth of 205 feet, and was hydrofractured to a depth of 488 feet in July 2001. The casing and annular seal are 126 feet deep, extending into a granite formation overlain by 118 feet of gravelly soils. Water was first encountered 148 feet below the surface. The estimated production rate of the well is 5.5 GPM. A well on the hillside north of the store was disconnected from the system when the renovated well was brought on line. Most of the 1000-foot radius protection zone delineated for the well is covered with the deep alluvial gravel and sand typical of the Rathdrum Prairie Aquifer. These porous soils provide little protection against migration of contaminants toward the well.

Water Quality History. Hauser Smoke Shop is required to monitor quarterly for bacterial contamination. No samples have tested positive since the renovated well was connected. No nitrates were detected in a sample from the well tested in January 2002.

Susceptibility to Contamination. A susceptibility analysis DEQ conducted on the Hauser Smoke Shop well, incorporating information from the public water system file, ranked the well moderately susceptible to all classes of regulated contaminants. Natural risk factors associated with local geology at the well site and inside the 1000-foot radius around the well contributed the most points to the final susceptibility scores. The susceptibility analysis worksheet for your well on page 6 of this report shows how your well was scored. Formulas used to compute the final susceptibility scores are shown on the bottom of the worksheet.

Drinking Water Protection. This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Hauser Smoke Shop made extensive improvements to its water system in 2001. A sanitary inspection in February 2002 noted the need for a sample tap and pump to waste on the discharge line for the well. The reservoir access riser needed modification to prevent unauthorized access, and the backflow prevention valve on the evaporative cooler needed to be inspected.

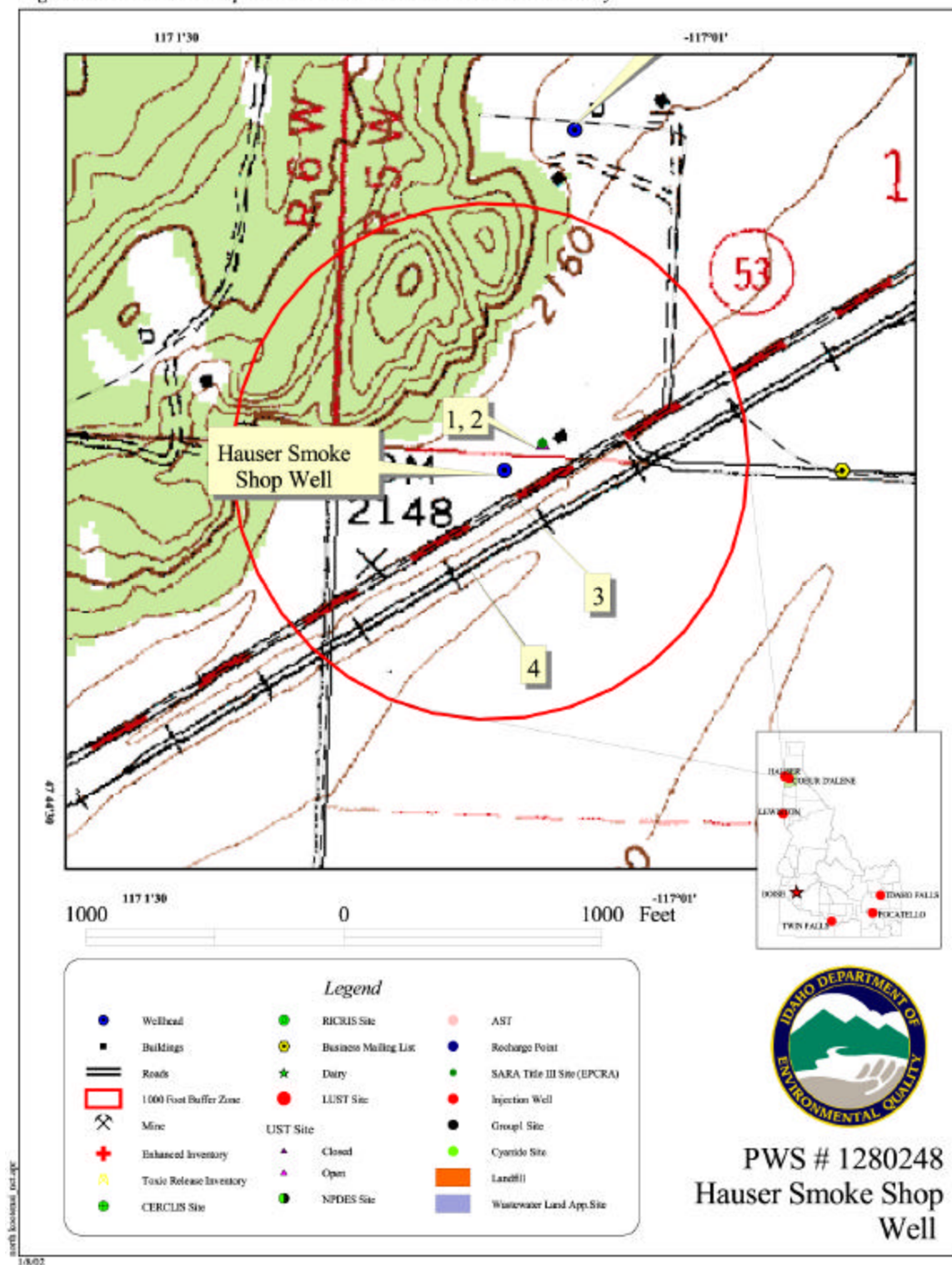
The system may want to install some kind of barrier to protect the wellhead since it is located near the highway. Because Hauser Smoke Shop doesn't have direct jurisdiction over the entire 1000-foot protection zone around its well, it will be important to form partnerships with neighbors, and public agencies to regulate land uses that can degrade ground water quality. The goal of source water protection is to maintain current water quality for the future despite the changes we can expect with population growth in North Idaho.

For assistance in developing source water protection strategies please contact Shantel Aparicio or Sheila Bruning at the Coeur d'Alene Regional DEQ office at 208 769-1422.

DEQ Website:

<http://www.deq.state.id.us>

Figure 1. Hauser Smoke Shop Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name :

HAUSER SMOKE SHOP

Well # :

WELL

Public Water System Number :

1280248

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1. System Construction		SCORE			
Drill Date	4/11/74				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES 2002				
Well meets IDWR construction standards	YES			0	
Wellhead and surface seal maintained	YES			0	
Casing and annular seal extend to low permeability unit	YES			0	
Highest production 100 feet below static water level	YES			0	
Well located outside the 100 year flood plain	YES			0	
Total System Construction Score				0	
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO			2	
Vadose zone composed of gravel, fractured rock or unknown	UNKNOWN			1	
Depth to first water > 300 feet	NO			1	
Aquitard present with > 50 feet cumulative thickness	UNKNOWN			2	
Total Hydrologic Score				6	
3. Potential Contaminant / Land Use - ZONE 1A		IOC	VOC	SOC	Microbial
		Score	Score	Score	Score
Land Use Zone 1A	UNDEVELOPED	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	1	2	2	1
(Score = # Sources X 2) 8 Points Maximum		2	4	4	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	2	2	
4 Points Maximum		1	2	2	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		3	6	6	2
Cumulative Potential Contaminant / Land Use Score		3	6	6	2
4. Final Susceptibility Source Score		7	8	8	7
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)
- 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.